STATEMENT OF LEGAL AND FACTUAL BASIS

Transcontinental Gas Pipe Line Corporation
Compressor Station No. 165
945 Transco Road, Chatham, Virginia in Pittsylvania County
Permit No. (SCRO) 30864

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Transcontinental Gas Pipe Line Corporation has applied for a Title V Operating Permit for its Compressor Station No. 165 facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____ Date: November 26, 2003

Air Permit Manager:_____ Date: November 26, 2003

Regional Director:_____ Date: November 26, 2003

FACILITY INFORMATION

Permittee

Transcontinental Gas Pipe Line Corporation
P. O. Box 1396
Houston, TX 77251-1396

Facility

Compressor Station No. 165
945 Transco Road, Chatham, Virginia
in Pittsylvania County

AFS ID No.: 51- 143-0120

SOURCE DESCRIPTION

SIC Code 4922 - Transcontinental Gas Pipe Line Corporation (Transco) is an interstate natural gas transmission company. Transco's compressor stations are used to compress and move the gas along the system. Compression is made possible through the application of natural gas-fired, internal combustion, reciprocating compressor engines. The facility is a Title V major source of NOx, CO, VOC, and hazardous air pollutant (HAP) emissions. This source is located in an attainment area for all pollutants and is a PSD major source. Transco's Compressor Station No. 165 was constructed in the early 1960s and is currently subject to the provisions of Chapter 40 of 9 VAC 5.

COMPLIANCE STATUS

The facility is inspected once a year, at a minimum. This facility was inspected on August 8, 2002, and was deemed to be in compliance to the Title V permit dated November 25, 1998, as amended on July 16, 1999. On May 17, 2003, the Department received Part 1 of Transco's application for §112(j) of the Clean Air Act. Therefore, Transco has submitted a timely and complete application under the MACT Hammer.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Compressor Station No. 165 is a natural gas transmission facility (compressor station) that consists of ten Clark TLA-6, 2 cycle, lean burn, spark ignited, natural gas-fired internal combustion (IC) engines (2SLB), each rated at 17.2 Million BTU/Hr (2,100 hp power output); one Clark TCVC-10 2SLB natural gas-fired IC engine rated at 27.84 Million BTU/Hr (3,400 hp power output); two Ingersoll Rand PSVG-6, a 4 cycle, spark ignited, rich burn (4SRB) natural gas-fired IC engine-powered electric generators each rated at 5.5 Million Btu/hr (408HP); and one Waukesha F-817G 2SLB IC natural gas-fired IC engine-powered air compressor rated at 1.0 Million Btu/hr (105 HP). There are no add-on air pollution control devices for any spark ignited reciprocating, internal combustion engines (SRICE).

EMISSIONS INVENTORY

Emissions are summarized in the following tables.

2002 Actual Emissions

	2002 Pollutant Emission in Tons/Year					
Emission Unit	**VOC**	**CO**	**SO_2**	**PM_{10}**	**NO_x**	**Formaldehyde**
Transco Station #165	77.4	520.7	0.3	16.0	1,705.2	22.6

Source of emissions data: 2002 CEDS Pollutant Emissions Report

EMISSION UNIT APPLICABLE REQUIREMENTS - (Ref. M/L1-M/L11, AUX 1-2, A/C 1)

Limitations

The ten Clark TLA-6 2SLB engines, the Clark TCVC-10 2SLB engine, the two Ingersoll Rand PSVG-6 4SRB engines, and the Waukesha F-817G 2SLB engine were constructed prior to March 17, 1972, and have not been modified since, and are currently subject to the provisions of Article 4 of 9 VAC 5 Chapter 40 (9 VAC 5-40-240 et seq.). The engines were designed to be fueled by pipeline quality natural gas, and a change in fuel may require a permit to modify and operate. The engines are subject to the SO_2 emission limit of 2.64K per 9 VAC 5-40-280 (B) and the H_2S emission limit per 9 VAC 5-40-290.

The SO_2 emission rate from each SRICE (Ref. M/L1-M/L11, AUX 1-2, A/C 1) is a function of the sulfur content of the fuel. The maximum SO_2 emissions have been established (SCC #20200252) from testing during the development of AP42, Section 3.2, Natural Gas-fired Reciprocating Engines, dated 7/00 to be 0.588×10^{-4} lb/MMBtu, based on an assumed fuel sulfur content of 2,000 gr/10^6 scf (see footnote e of AP42 Table 3.2-1 dated 7/00).

The maximum SO_2 emission rate from each SRICE (Ref. M/L1-M/L11, AUX 1-2, A/C 1) has been established to be 0.588×10^{-4} lb/MM Btu, which is in compliance with the 2.64 lb/MM Btu limit per 9 VAC 5-40-280. The permittee will keep records of malfunctions, operating procedures, maintenance schedules, and service records, and will conduct a weekly visible emission observation (see Periodic Monitoring).

The H_2S emission rate from each SRICE (Ref. M/L1-M/L11, AUX 1-2, A/C 1) is a function of the sulfur content of the fuel. The maximum H_2S emission has been calculated using the SO_2 emission factor (SCC #10200602) from AP42, Section 3.2, Natural Gas -fired Reciprocating Engines, dated 7/00, the estimated fuel consumption (17.2 MMBtu/hr) at 920 Btu/ft^3 and exhaust gas volume of a Clark TLA-6 2SLB engine (18,552 acfm) to be:

$$H_2S = \frac{0.588 \times 10^{-4} \text{ lb/MM Btu} \times 17.2 \times \text{MM Btu/hr} \times 100 \times 7{,}000 \text{ gr/lb} \times (34/64)}{60 \text{ min/hr} \times 18{,}552 \text{ ft}^3_{exh}/\text{min}} = 0.000338 \text{ gr}/100 \text{ ft}^3_{exh}$$

The expected H_2S emission rate from each SRICE (Ref. M/L1-M/L11, AUX 1-2, A/C 1) has been calculated to be 0.000338 gr/100 ft$^3_{exh}$ which is in compliance with the 15 gr/100 ft^3 limit per 9 VAC 5-40-290. The permittee will keep records of operating procedures, maintenance schedules, and service records, and will conduct a weekly visible emission observation (see Periodic Monitoring).

Visible emissions from the SRICE exhaust stack(s) shall not exceed twenty (20) percent opacity, except during one six-minute period in any one hour in which visible emissions shall not exceeded sixty (60) percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A) per 9 VAC 5-40-80.

Transco has submitted a Part 1 application under §112(j) of the Clean Air Act (MACT Hammer). The proposed 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT), which applies to Compressor Station No. 165, is expected to be promulgated prior to the date Transco would have to submit a Part 2 application under §112(j) of the Clean Air Act.

Periodic Monitoring

Monitoring of opacity will require the source to, at least one time per week, observe for the presence of visible emissions from each SRICE (Ref. M/L1-M/L11, AUX 1-2, A/C 1) exhaust stack (Ref. 01-14) when these emission units are operating. If visible emissions are observed, the permittee will have the option to take timely corrective action to resume operations without visible emissions or perform a VEE in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions' compliance. If visible emissions inspections conducted during twelve (12) consecutive weeks show no visible emissions for a particular stack, the permittee may reduce the monitoring frequency to once per month for that stack. Anytime the monthly visible emissions inspections show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack. The permittee will keep a log of observations, any VEE recordings and any corrective actions. If any emission unit has not operated for any period during the month, this fact shall be noted in the individual log, and the visible emission observation for the idle emission unit will not be required.

Recordkeeping

The permit requires the Transco to maintain the following records, which include, but not limited to:

The annual throughput of fuel consumption in each SRICE (Ref. M/L1-M/L11, AUX 1-2, A/C 1), calculated monthly as the sum of each previous consecutive 12 month period.

The equations, emission factors, origin of emission factors, and all supporting documentation for criteria pollutant emissions.

Scheduled and unscheduled maintenance to each SRICE (Ref. M/L1-M/L11, AUX 1-2, A/C 1) and operator training.

Results of all stack tests, visual emissions examinations (VEE), periodic monitoring, and performance evaluations.

Copies of all notifications.

Testing

The SRICE(s) (Ref. M/L1-M/L11, AUX 1-2, A/C 1) are not subject to a PM, NOx, or CO emission standard(s) and a stack testing is not required for this facility. Furthermore, the use of natural gas in the SRICE (Ref. M/L1-M/L11, AUX 1-2, A/C 1) meets the SO_2 and H_2S emission standards per Article 4 of 9 VAC 5 Chapter 40 and a stack test for SO_2 and H_2S is not required.

Reporting

The Title V permit contains the standard testing, malfunction, and compliance reporting requirements in Section V.

Streamlined Requirements

None

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement NO. 3-2001".

This general condition cites the sections that follow:

9 VAC 5-80-80. Application
9 VAC 5-80-140. Permit Shield
9 VAC 5-80-150. Action on Permit Applications

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:

9 VAC 5-40-50. Notification, Records and Reporting
9 VAC 5-50-50. Notification, Records and Reporting]

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:
9 VAC 5-80-110. Permit Content

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.
40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.
40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

STATE ONLY APPLICABLE REQUIREMENTS

None

FUTURE APPLICABLE REQUIREMENTS

Transco Compressor Station No. 165 is a major source of hazardous air pollutants and will comply with the provisions of 40 CFR Part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT) when promulgated.

INAPPLICABLE REQUIREMENTS

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 3 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended

provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

Compressor Station No. 165 does not process, store, or upgrade natural gas and is not subject to the provisions of Subpart HH, National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities per 40 CFR 63.760(a).

Compressor Station No. 165 does not include a glycol dehydration system or natural gas storage system. The June 29, 2001 amendment to MACT Subpart HHH states that a ‘‘compressor station that transports natural gas prior to the point of custody transfer, or to a natural gas processing plant (if present) is not considered a part of the natural gas transmission and storage source category.’’ Therefore, Compressor Station No. 165 is not subject to the provisions of Subpart HHH—National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities per § 63.1270(a).

Since there are no add-on air pollution control devices on the SRICE (Ref. M/L1-M/L11, AUX 1-2, A/C 1), Compliance Assurance Monitoring (CAM) is not required for this facility.

COMPLIANCE PLAN

None

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
IA1	Powermaster 3G natural gas-fired space heat boiler	5-80-720 C	N/A	5.4 MM Btu/hr (heat input)
IA2	Kewanee natural gas-fired space heat boiler	5-80-720 C	N/A	5.0 MM Btu/hr (heat input)
IA3	11,600-gallon lube oil storage tank (before 1970)	5-80-720 B	VOC < 5 tons/yr	NA
IA4	1,400-gallon lube oil storage tank	5-80-720 B	VOC < 5 tons/yr	NA
IA5	2,000-gallon used oil storage tank	5-80-720 B	VOC < 5 tons/yr	NA
IA6	2,000-gallon condensate storage tank	5-80-720 B	VOC < 5 tons/yr	NA
IA7	800-gallon portable condensate storage tank	5-80-720 B	VOC < 5 tons/yr	NA
IA8	80-gallon hydraulic oil expansion tank	5-80-720 C	NA	< 1000-gallons
IA9	458-gallon lube oil transfer tank	5-80-720 C	NA	< 1000-gallons
IA10	242-gallon lube oil storage tank	5-80-720 C	NA	< 1000-gallons
IA11	564-gallon portable diesel storage tank	5-80-720 B	VOC < 5 tons/yr	NA
IA12	8,820-gallon waste water storage tank	5-80-720 B	VOC < 5 tons/yr	NA
IA13	9,000-gallon ethylene glycol/water surge vessel	5-80-720 B	VOC< 5 tons/yr	NA
IA14	2,000-gallon ethylene glycol/water surge vessel	5-80-720 B	VOC < 5 tons/yr	NA
IA15	4,297-gallon ethylene glycol/water transfer tank	5-80-720 B	VOC < 5 tons/yr	NA
IA16	2,750-gallon ethylene glycol/water storage tank	5-80-720 B	VOC < 5 tons/yr	NA
IA17	48-gallon boiler condensate water storage tank	5-80-720 B	VOC< 5 tons/yr	NA
IA18	Parts washer	5-80-720 B	VOC < 5 tons/yr	NA
IA19	159-gallon ethylene glycol/water sump	5-80-720 B	VOC < 5 tons/yr	NA
IA20	2,000-gallon ethylene glycol/water transfer tank	5-80-720 B	VOC < 5 tons/yr	NA
IA21	661-gallon methanol storage tank	5-80-720 B	VOC < 5 tons/yr	NA

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee has not claimed any information to be confidential.

PUBLIC PARTICIPATION

The proposed permit will be place on public notice in the Chatham STAR-TRIBUNE from August 27, 2003 to September 26, 2003.